Comments on
"Validation of the METEOSAT storm detection and nowcasting system Cb-TRAM with lightning network data – Europe and South Africa", T. Zinner et al.

General Comments

This paper provides an interesting overview of Cb-TRAM performances for two different areas. The quantitative and objective approach offers a positive alternative to classical case studies.
Nevertheless the analysis of the results is made difficult by the differences in lightning network used as ground truth, a point that is mentioned at different steps of the paper. Thus it is difficult to distinguish between lightning data effects and regional climatology effects.
Analysis of the results concerning day/night differences is made difficult by the differences in algorithm (use of HRV texture during the day and use of WV during the night). Thus it is difficult to distinguish between algorithm impact and day/night features of convection.
The authors remain sometimes on a descriptive level and should suggest or discuss some mid-term or long-term improvement along the text or in last chapter: MTG/LI for lightning detection, fusion of small cells for forecast range > 30 minutes, use of Atmospheric Motion vector or NWP guidance to improve the displacement, etc. The values of score should be more discussed considering different categories of possible use of the Cb-Tram by forecasters, Air Traffic Management, warning systems, etc. For some unfavourable configuration FAR are very high, are they still acceptable?

Specific Comments

- Reference (Guillou, 2007): much more recent references are available on NWCSAF website. More generally, references are a little bit old, most of them before year 2009
- Page 1273 line 6-8: Are ATD, WWLN or GLD360 data available for the period and both areas? If yes, why these network are not used (location accuracy?)? If not, are they available for a more recent period than 2008?
- Paragraph 3.1 (page 1278) and 3.2 (page 1279): description of lightning networks should be homogeneous. For example, "Detection Efficiency" and "Location accuracy" could also be indicated for LINET.
- Page 128 line 16 : I don't have the value of 0.01, but rather 0.03. Please verify
- Spatial matching between cells and object is well described, temporal matching could be more described
- I suggest to avoid the use of "skill score" expression for POD or FAR. Skill score are used to indicate whether or not a forecast is better than a reference.
- page 1284 lines 22-25. Choice is made to compare forecast with ground truth rather than analysed objects or pixel. Please discuss and justify a little bit more (a choice closer to en-user point of view, but that does not allow to tell convection-representativeness error from advection-scheme error.
- page 1286 lines 3-22 : I did not well understood these paragraphs, the use of "area" term is confusing. Idem the use of "from space".
- paragraph 5.2: is there any dilatation of the objects with forecast range. Are fusion of objects managed.

Technical Comments

- Use and place of “also”
- Some sentences are long and should be cut in two.
- page 1276 line 7: “crteria”
- page 1277 line 2-3 “led to the combination of different detectable signs of storm activity in a weighted non-binary sense”: not understood
- page 1280 line 23-24 “red colored areas in constitute the lightnig cell” : not understood
- page 1282 line 6-8 : idea already given
- page 1286 line 7 : “fromany”
- page 1285 line 19 “sl”
- Sentence page 1286 line 26-27 : not understood
- page line 287 l21 “necessaryly”
- Table2 p line 298: areas are not indicated